

ABSTRACT OF THE DISCLOSURE

A magnetron, and a microwave oven and a high frequency heating apparatus each equipped with the same use, a single permanent magnet disposed above or below an anode, a pole piece near the permanent magnet that has a magnetic flux dispersing structure, and another pole piece opposite to the permanent magnet that has a magnetic flux concentrating structure. In accordance with the present invention, even though a single permanent magnet is provided, magnetic flux density is rendered uniform across an activating space, so that the volume and parts of the magnetron are reduced and the curtailment of manufacturing costs is realized.